

Claims

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent is:

- 1 1. A method, for use in a virus-free certificate cache, of caching one or multiple virus-
2 free certificates, each virus-free certificate certifying that a file is virus-free, said
3 method comprising the steps of:
4
 - 5 • receiving a virus-free certificate request for a file;
 - 6 • identifying the file in a cache table, said cache table comprising for each
7 identified file one or a plurality of virus-free certificates;
 - 8 • selecting in the cache table one virus-free certificate for the identified file,
9 using one or a plurality of anti-virus criteria;
 - 10 • retrieving from the cache table said selected virus-free certificate;
 - 11 • sending back in response to the virus-free certificate request the retrieved
12 virus-free certificate .
- 1 2. The method according to claim 1 wherein the virus-free certificate request
2 comprises:
3
 - 4 • a list of one or a plurality of anti-virus programs to execute on the file to
5 determine whether the file is virus-free or not.
- 1 3. The method according to claim 1 wherein the virus-free certificate request further
2 comprises:
3
 - 4 • an identification of the file.

1 4. The method according to the claim 1 wherein the virus-free certificate request
2 further comprises:

- 3
- 4 • an identification of a virus-free certificate authority, said virus-free certificate
5 authority having authority to generate virus-free certificates.

1 5. The method according to claim 1 wherein the virus-free certificate comprises:

- 2
- 3 • the list of the one or plurality of anti-virus programs that have been
4 executed on the file.

1 6. The method according to claim 1 wherein the virus-free certificate further
2 comprises:

- 3
- 4 • a virus-free certificate authority identification.

1 7. The method according to claim 1 wherein the step of selecting in the cache table
2 one virus-free certificate for the identified file using one or a plurality of anti-virus
3 criteria comprises the further steps of:

- 4
- 5 • comparing the list of one or a plurality of anti-virus programs comprised in
6 each virus-free certificate associated with the identified file in the cache table with the
7 list of one of a plurality of anti-virus programs comprised in the received virus-free
8 certificate request;

9

10 and where the list of one of a plurality of anti-virus programs comprised in a virus-free
11 certificate associated with the identified file includes the list of one or a plurality of
12 anti-virus programs comprised in the received virus-free certificate request:

- 13
- 14 • selecting said virus-free certificate.

- 1 8. The method according to claim 1 wherein the step of selecting in the cache table
- 2 one virus-free certificate for the identified file using one or a plurality anti-virus
- 3 criteria comprises the further steps of:
- 4
- 5 • comparing the virus-free certificate authority identification comprised in
- 6 each virus-free certificate associated with the identified file in the cache table,
- 7 and the virus-free certificate authority identification comprised in the received virus-
- 8 free certificate request:
- 9 and where the virus-free certificate authority identification comprised in a virus-free
- 10 certificate associated with the identified file is identical to the virus-free certificate
- 11 authority identification comprised in the received virus-free certificate request:
- 12
- 13 • selecting said virus-free certificate.

- 1 9. The method according to claim 1 wherein the step of identifying the file in a cache
- 2 table comprises the further steps of:
- 3

4 If the file is not identified in said cache table:

- 5
- 6 • forwarding the received virus-free certificate request to another virus-free
- 7 certificate cache;
- 8 • receiving a virus-free certificate in response to said forwarded virus-free
- 9 certificate request;
- 10 • sending back in response to the received virus-free certificate request, said
- 11 received virus-free certificate.

- 1 10. The method according to claim 1 comprising the further step of:
- 2

- 3 • receiving request to update the cache table, said request comprising a virus-
- 4 free certificate;
- 5 • storing said virus-free certificate in the cache table.

1 11. The method according to claim 10 wherein the step of receiving a request to
 2 update the cache table comprises the further step of:

- 3
- 4 • forwarding said request to another virus-free certificate cache.

1 12. The method according to claim 1 comprising the further step of:

- 2
- 3 • discarding from the cache table the virus-free certificate which are no more
- 4 valid.

1 13. The method according to claim 1 comprising the further steps of:

- 2
- 3 • selecting in the cache table one or a plurality of virus-free certificates, using an
- 4 information indicating for each virus-free certificate the date of the latest virus-
- 5 free certificate request which has been received for said virus-free certificate;
- 6 • discarding from the cache table said one or plurality of selected virus-free
- 7 certificate.

1 14. The method according to claim 1 comprising the further steps of:

- 2
- 3 • selecting in the cache table one or a plurality of virus-free certificate, using an
- 4 information indicating for each virus-free certificate the number of virus-free
- 5 certificate request which have been received for said virus-free certificate;
- 6 • discarding from the cache table said one or a plurality of selected virus-free
- 7 certificate Comprises.

1 15. The method according to claim 1 wherein the generated virus-free certificate
2 comprises:

- 3
- 4 • a file signature for certifying that the file is declared a virus-free by the
5 selected virus-free certificate authority.

1 16. The method according to claim 1 wherein the virus-free-certificate further
2 comprises:

- 3
- 4 • a file identification;
 - 5 • a public key for decrypting the file signature;
 - 6 • a certificate signature for authenticating the virus-free certificate;
 - 7 • an indication of the virus-free certificate validity.

1 17. A system for caching one or more virus-free certificates within a LAN/WAN
2 network, each virus-free certificate certifying that a file to be downloaded to a client is
3 virus-free, said system comprising:
4 a mechanism for receiving a request for a virus-free certificate associated with a file to
5 be downloaded to said client;
6 cache table device for storing one or more virus-free certificates for files, said cache
7 table device including look-up mechanism for identifying one or more virus-free
8 certificates associated with a requested file in a cache table; said look-up mechanism
9 enabling selection of one virus-free certificate for the identified file using one or a
10 plurality of anti-virus criteria; and,
11 mechanism for retrieving from a cache table said selected virus-free certificate; and, in
12 response to said request, returning a retrieved virus-free certificate with said file.

1 18. A program storage device readable by a machine, tangibly embodying a program
2 of instructions executable by the machine to perform method steps for caching one or

3 more virus-free certificates within a LAN/WAN network, each virus-free certificate
4 certifying that a file to be downloaded to a client is virus-free, said method steps
5 comprising:
6 a) receiving a virus-free certificate request for a file;
7 b) identifying the file in a cache table, said cache table comprising for each
8 identified file one or plurality of virus-free certificates;
9 c) selecting in the cache table one virus-free certificate for the identified file
10 using one or a plurality of anti virus criteria; and,
11 d) retrieving from the cache table said selected virus-free certificate and
12 returning a retrieved virus-free certificate with said file.

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